

## **REMARKS**

Claims 29-43 are rejected. Claims 1-28 and 44-64 are withdrawn from consideration. Claims 29-43 are presently pending in the application. Favorable reconsideration of the application in view of the following remarks is respectfully requested.

### **Rejection Of Claims 29-43 Under 35 U.S.C. §103(a):**

The Examiner has rejected Claims 29-43 under 35 U.S.C. 103(a) as being unpatentable over Sutton et al (4,997,772), as the reference discloses a water insoluble polymeric particle having an inner core comprising a first polymer being derived from one or more ethylenically unsaturated polymerizable monomers and an outer shell comprising a second polymer being derived from one or more ethylenically unsaturated polymerizable monomers, at least one of which monomers has reactive groups which are either directly or indirectly reactive with free amino or sulfhydryl groups of an immunoreactive species, the particle having none of the tracer within the outer shell or on its outer surface, and the particle being covalently attached through the reactive groups on the outer surface to an immunoreactive species. The Examiner also notes that the immunoreactive species attached to the particles can be enzyme, proteins or other biological compounds, that the first monomers have been disclosed, that the shell of the particles comprises a second polymers which can be represented by the formula (II) in that z can be 0 and F in the formula II of the reference is considered the claimed H of formula I in claim 36, representing vinylsulfonyl group and the polymeric particles can be prepared using graft copolymerization. The Examiner indicates that the disclosure of the reference differs from the instant claims in that it does not disclose all of the components representing H component, as in the claims, however, the reference does disclose some of the F components which are included in the claimed H component of formula II and, therefore, it would have been obvious to one of ordinary skill in the art to select the vinylsulfonyl components from the reference within the limitations of the instant claims since they have been shown to be effective in a similar system and thus would have been expected to provide adequate results and there is no showing of unexpected results derived from said selection.

Sutton discloses a water-insoluble polymeric particle has an inner core comprising a detectable tracer material distributed in a first polymer for

which the tracer material has a high affinity and an outer shell comprising a second polymer for which the tracer material has substantially less affinity relative to said first polymer. This second polymer contains groups which are either reactive with free amino or sulfhydryl groups of an immunoreactive species or which can be activated for reaction with such groups. Such a species can be covalently attached to this particle to form an immunoreactive reagent which is useful in analytical elements and various analytical methods including immunological methods, for example, agglutination assays. This invention relates to a core/shell polymer particle containing a detectable tracer material in the core only.

The present invention relates to a polymer particle comprising a monodispersed polymer bead stabilized by vinylsulfonyl-functionalized polymers grafted to the surface of the bead, which are useful in a biological assay to allow a biological capture agent to be easily attached to the surface of such microspheres without using any chemical coupling agents and which allow the tag to retain higher reactivity than the same compounds bound directly to the surface of a similar bead. By "monodisperse" it is meant that the coefficient of variation of the particle size distribution, that is, the standard deviation as a percentage of the mean, will be less than 20%. (pg 5, lines 13-15 of the specification as originally filed)

To establish a prima facie case of obviousness requires, first, there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combines) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

The reference to Sutton fails to teach the modification required by the present invention, that is, the monodispersed particles of the present invention. The reference also fails to provide any likelihood of success, as there is no teaching to suggest monodispersity. The reference also fails to include all the

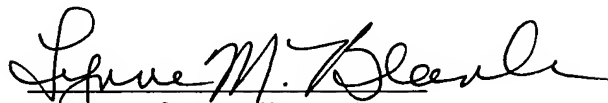
limitations of the present invention, as there is no mention of a "monodispersed polymer beads".

The monodispersity of the particles provides an advantage in measurement and analysis resolution, as discussed in the attached Declaration of Qiao.

In summary, the reference fails to disclose, teach or suggest the present invention wherein a vinylsulfonyl-functionalized polymer is grafted to the surface of the monodispersed polymer bead, fails to provide any likelihood of success for the use of monodispersed beads, and fails to include the limitation that the polymer beads be monodispersed. The Applicants therefore request that the Examiner reconsider and withdraw the rejection. The Applicants therefore request that the Examiner reconsider and withdraw the rejection.

It is believed that the foregoing is a complete response to the Office Action and that the claims are in condition for allowance. Favorable reconsideration and early passage to issue is therefore earnestly solicited.

Respectfully submitted,

  
Attorney for Applicant(s)  
Registration No. 42,334

Lynne M. Blank/ct  
Rochester, NY 14650  
Telephone: 585-477-7418  
Facsimile: 585-477-1148

Enclosures: Declaration of Qiao

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.